"COM as Shooter" – Operational Planning using C2 for Confronting and Collaborating

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Abstract

Confrontation and Collaboration Analysis (CCA) is a way of analyzing interactions between parties – especially in Peace or Post-Conflict Stabilization Operations. It concentrates on achieving a particular kind of psychological effect, viz, a change in the intentions and objectives of other parties – and directly supports emerging command concepts such as Effects-Based Operations and the Operational Net Assessment. This paper describes the use of CCA, in the form of a "cut down" system for Command and Control of Confronting and Collaborating (C2CC), within Allied Action 03 (a major NATO planning exercise).

Introduction

Confrontation and Collaboration Analysis (CCA) [1] is a way of analyzing interactions between parties. It is being developed for military use, especially in

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Peace or Post-Conflict Stabilization Operations[1]. CCA can help commanders to develop and implement Compliance Plans to bring non-compliant parties (NCPs) into compliance.

CCA directly supports the emerging doctrine of Effects-Based Operations (EBO). It concentrates on achieving a particular kind of psychological effect, viz, a change in the intentions and objectives of other parties.

Central to CCA is the concept of "positions" – or espoused End-states. In a compliance operation, these are generally the first in a sequence of effects that a commander needs to achieve; that is, a commander needs first to get all parties to adopt compliant positions. Having achieved overt consent to a single, agreed position, he must then achieve actual compliance with that position. A strategy for this is developed by analyzing tensions between the agreed position and the intentions of key parties.

The CCA approach can be the basis for a system for Command and Control of Confronting and Collaborating (C2CC) – see [2] for a more detailed description of C2CC. This is a system for managing a network of CCAs and, as a result, for coordinating the confrontational elements of a stabilization campaign. As the C2CC system focuses on managing intent to bring about compliance, it needs to work in tandem with "kinetic" C2 systems and processes (e.g. logistics, deployment and targeting of physical entities) that are essential to the implementation of a CCA-derived stabilization strategy.

In this paper, we report the trial of C2CC concepts in a major NATO exercise (Allied Action 03). The trial was inserted into the pre-deployment planning phase. A C2CC capability was introduced as part of the Operational Planning Process (OPP). The introduction of the C2CC capability was designed to allow an assessment of its operation and its contribution to the final plan.

Developments of the C2CC concept, in preparation for the trial, resulted in a number of significant enhancements. Established military concepts, such as Center of Gravity, were defined in terms of CCA, contributing, we believe, to the definition of these concepts in a stabilization campaign.

In addition, the research introduced the concept of "Commander as Shooter" into the planning process. This contrasts with the role of the commander in War-Fighting, which may be described as "Commander as Director". C2CC directly addresses both roles in a consistent manner.

A quantitative assessment scheme was developed for this trial. It should form the basis for a system of performance measurement for the proposed C2CC system. AFNORTH's own assessment of the trial has not yet been released for distribution.

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[1] …although it applicable to a wide range of military operations. See [2] for a discussion of CCA and the Unified Theory of War.

The organization of the trial itself provided a number of challenges, ultimately impacting the assessment of the C2CC concept. These challenges are discussed, with a review of their impact on the results of the trial.

How EBO applies to Peace and Stabilization Operations: the need for CCA

The concept of EBO was developed prior to 9/11. Since then, new demands placed on the military have made the need for EBO more obvious. At the same time, they have pointed to the need to focus on the particular kind of effect – a change in other parties' objectives and intentions – that is the subject of CCA.

All the activities involved in CCA and C2CC are presently carried out in Peace and Stabilization Operations. However, they are not as clearly conceptualized and well organized as the tools of CCA would allow them to be. The potential contribution of CCA is to improve the coordination and effectiveness of such activities.

Before 9/11, a Peace Operation was thought of as a principled intervention by the International Community to bring peace to a warring or potentially warring region. Since 9/11, the need to stabilize post-conflict theatres in Afghanistan and Iraq has thrown new light on this kind of operation. In both theatres there was a crucial need, during fighting, to develop understandings with in-theatre parties so that they would support coalition action. Following the fighting, there was a need to bring the majority of in-theatre parties into compliance with a peaceful, democratic regime. As in pre-9/11 Peace Operations, bringing parties into compliance has required a coordinated strategy between the military and civilian international agencies.

We intend to focus on how EBO and CCA apply to both Peace and Stabilization Operations, using a single term (P&SO) to include both kinds of operation.

EBO is described by Smith ([1], p. xiv) as

> **a coordinated set of actions directed at shaping the behavior of friends, foes and neutrals in peace, crisis and war.**

In applying this definition to P&SO, several points need emphasizing.

1. First, the general "effect" aimed at in EBO is the shaping of behavior. But in P&SO particularly, it is necessary to look beyond parties' behavior. CCA focuses on a major determinant of behavior – viz, intentions and objectives. This is because in a P&SO, while parties' objectives remain non-compliant, compliant behavior will be unwilling and therefore likely to revert to non-compliance if forces leave the theatre. Hence, in order for military forces to leave, it is necessary to change parties' long-term objectives.

2. Second, the desired effect on parties' behavior, intentions and objectives cannot generally be achieved by the military alone. The full range of military and non-military means may be required. Consequently there is a need, in P&SO, for the military to work in cooperation with civilian agencies inside the theatre, as these wield many of the carrots and sticks needed to change the intentions of non-compliant parties.

3. Hence there is generally a need to change the intentions and objectives of "friends", as well as those of non-compliant parties, since otherwise the necessary cooperation with the military may not be forthcoming.

4. Finally, the desired change of intentions and objectives can only be achieved by coordinated action at all levels of conflict. In P&SO, the theatre commander needs to cooperate with heads of civilian agencies in confronting the chiefs of non-compliant parties or governments. Simultaneously, tactical commanders need to work with local civilian representatives to confront local non-compliants, while functional commanders responsible for Psychological Operations (PSYOPS), Public Information (PI) and Civil-Military Cooperation (CIMIC) need to be sending out messages that support the overall confrontational strategy.

The concept of the "Commander as Shooter"

These requirements of P&SO lead to an important development of the EBO concept – a development that was made operational in the AFNORTH trial.

EBO has generally been conceived of as bringing about effects at the tactical level only. The role of the commander and his staff has been seen as limited to directing tactical efforts.

This follows the model of War-Fighting. In War-Fighting, the commander directs activities on the ground by developing and choosing courses of action (COAs) for his subordinate commanders, who take these as their missions and, in turn, develop and delegate COAs to achieve them. Actual effects are achieved by "shooters" at tactical level.

By contrast, in a Peace or Stabilization Operation a commander has an extra responsibility, in addition to his responsibility for directing lower-level shooters. He himself must be a "shooter", since he must directly achieve certain desired effects by confronting NCPs at his own level and directly impacting on their intentions.

This is because communication is a key component of the actions by which intentions and objectives are changed. Intentions and objectives are future-oriented. A party changes its objective from B to A when it comes to prefer the future that A offers to the future offered by B. Communication is the method by which parties' beliefs about different futures and their preferences for them are changed.

To be effective in changing beliefs and preferences, communication must be credible; and to achieve credibility, concrete actions may need to be taken. In other words, threats and promises may need to be carried out, at least in part, in order to be credible. Merely communicating them may not be enough. Deployment, for example, sends a physical message of readiness to act. It may therefore be necessary to make the threat of action credible. Similarly, taking action in one particular case can demonstrate the credibility of action in other cases.

In this way, physical actions may be a key part of the actions necessary to change parties' objectives. But though physical actions may be necessary, they are never sufficient. Communication is essential. Actions need to be embedded in an interpretive framework. The other side needs to know what actions mean. Deployment to be ready for action is useless in making a threat credible if it is interpreted as something else – e.g. withdrawal – or if it is kept secret.

Now the communication by which a military force brings about a desired change in parties' intentions and objectives can be divided into two kinds. Using military terminology, a force directs two kinds of communications "fire" at friends, foes and neutral parties: "functional" fire and "line" fire. "Functional" fire is delivered by functions such as PSYOPS, Public Information, CIMIC and Information Operations. This fire is important. It needs to be coordinated and to deliver the right message about the alternative futures awaiting the recipient.

"Line" fire is, however, what finally brings the desired result. It consists of the "eyeball-to-eyeball" interaction between the commander (or his/her immediate delegate) and representatives or leaders of other parties. Key individuals are convinced of the need to change their position or intentions when they meet and look into another's eyes and are personally told what alternatives they have. It is in delivering this kind of "fire" that the commander is an essential "shooter".

The significance of line fire is shown by an analogy. Suppose a prince is wooing a princess. He may employ violinists to serenade her balcony in the moonlight. They may be highly effective as functional fire. But the prince himself must finally approach the princess to ask for her hand. He is responsible for line fire.

Note that line fire is not a responsibility of the operational commander alone. Tactical commanders must do the same job at their level. From the level of company commander down to private soldier, any line warrior may enter into a crucial "eyeball-to-eyeball" interaction with a representative of another party. A company commander may interact personally with a mayor, sheikh, doctor, engineer or local bureaucrat. A platoon commander leading a patrol may interact with the leader of a gang or small local community. A private soldier guarding an alleyway may have to deal with individuals wishing to pass.

In each case, the warrior in question must deal with the situation because he or she is a commander, meaning that she or he is responsible for the use of dominant force in the situation. This is the difference between interacting with a line commander at any level and a warrior operating in a functional capacity, e.g. a member of a CIMIC unit or a logistics team. The functional warrior can send a message. The line commander can conclude the basic agreements needed for mission fulfillment.

All these fires – "functional" fires at each level and "line" fires conducted personally by commanders at operational and tactical level – need to be coordinated and directed to achieve a unified strategic aim. This is the purpose of a C2CC system.

P&SO commands generally operate (often "informal") systems such as we have described. But formally defining the requirements of a C2CC system and consciously organizing to meet those requirements will make the system more effective.

Application of the "Commander as Shooter" concept in the AFNORTH trial

The AFNORTH trial of (elements of) a C2CC system was conceived of as part of the Mission Analysis phase of the Operational Planning Process for exercise Allied Action 03. It consisted of a two-day workshop run in parallel with the last two days of Mission Analysis, immediately prior to the Mission Analysis Briefing given to the operational commander. The idea was to see what the workshop could have contributed to Mission Analysis.

Mission Analysis was scheduled to take place at RHQ AFNORTH, following receipt of an Initiating Directive from SHAPE, some months prior to deployment of a Combined Joint Task Force (CJTF). The mission of the CJTF was to take charge of post-conflict stabilization following a war that had taken place on the fictitious Gem peninsula, located off the coast of Africa. Thus the CJTF had a P&SO mission.

To implement the concept of commander as shooter, the trial consisted of two days of analysis by the CJTF commander (actually, a senior officer of equivalent rank standing in for the commander[2]) of the confrontation/collaboration problems that were anticipated when the CJTF deployed in Gem. The commander worked on this analysis assisted by key staff from J5 (planning), J2 (intelligence), J3 (operations), the POLAD (political adviser), CIMIC, PSYOPS and PIO. He was provided with a facilitator, loaned by SACLANT, who had received prior training in the concepts and methods of CCA. With the facilitator's help, the COM CJTF and his staff built and analyzed three models.

- o A model of the geo-strategic, political-level problem that had given rise to his mission. *The aim*: to make mission planning more sensitive and responsive to the needs of NATO's political masters. To make this problem more realistic, a "messy" international-political situation was created that supposedly had given rise to the UN's decision to request a NATO intervention force. Under this specially-written scenario, "Westernland", the dominant superpower, was pitted against the "Midland" countries. Westernland saw the UN mission as one of coming to the rescue of a democratic country threatened and invaded by a terrorist rogue state. Midlanders saw the so-called "terrorists" working inside the threatened and invaded country as an oppressed minority whose democratic rights needed to be upheld. This difference between the nations presented a problem to the CJTF commander – a problem that a CCA could help him to resolve.

- o A model of the problem of getting opposing forces to withdraw to zones of separation, after which invading forces would be expected to withdraw to

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[2] The CJTF commander was unavailable due to last minute commitments.

international borders. *The aim:* to help the CJTF commander plan his interactions with political and military leaders of the two powers involved so as to pressure them to order their forces to withdraw as required by the schedules laid down by the CJTF.

- o A model of the long-term internal security problem posed by the continuing threat of "terrorist" activity inside the invaded country. *The aim:* to help the commander work in cooperation with aid agencies and the UN so as to change the objectives of all parties in favor of peace, security and reconstruction.

The aim of the two-day workshop was, first, to help the commander plan his personal interactions with key figures in the GEM theatre – figures such as the UN High Representative, representatives of aid agencies, and Presidents, Prime Ministers and government ministers of the GEM countries involved in the conflict. The second aim was to help him direct his subordinates in their confronting and collaborating activities. These aims are explained in more detail in the next section.

The need to work in coalition with civilian agencies: collaboration planning and compliance planning

The concept of the "commander as shooter" has a number of important implications for formalizing the kind of C2CC system required in a P&SO.

Within a C2CC system, the operational commander has two responsibilities.

1. He is responsible for his own "line" fire. He must act as a "shooter" in personally confronting and collaborating with the heads of civilian agencies and the leaders of nations or political movements in the theatre, whether these are friends (allies), foes (non-compliant parties) or neutrals.

2. He is also responsible, just as in War-Fighting, for giving directions to his subordinate commanders in relation to their confronting and collaborating actions.

   a. Functional commanders need clear directives as to the messages they need to send to friend, foe and neutral. This is obviously important for functions such as PSYOPS, PIO, CIMIC and Info Ops. However, not only these functions, but all others, including support functions, need directives as to the message they should send when interacting with external parties.

   b. Line commanders need to be given clear confrontational missions to be achieved through interactions with external parties at their level.

The analogy with a prince wooing a princess breaks down in one respect. The prince has a one-to-one interaction with the princess. The commander in a P&SO generally has to form a coalition with civilian agencies in order to successfully confront non-compliant parties.

To do this he must get civilian agencies to collaborate with the military. Working with these agencies is generally the most troublesome of all his interactions. Civilian agencies tend to have deep cultural differences with the military. Their representatives may have pacifist or other political motivations that make them reluctant to work with military officers.

From the viewpoint of a civilian agency, it often seems that the military approach to achieving compliance is ignorant, insensitive and naïve. They demand quick results. They consult within themselves to come up with a plan which they then present to the civilian agency as a *fait accompli*, expecting them to salute and accept the task assigned to them as if they were subordinate to the military. The military, for their part, often come to suspect civilian workers of having a vested interest in leaving problems unsolved while they spend the money allocated to them on personal luxuries. They are shocked by civilian laxness, indiscipline and unwillingness to plan and coordinate.

To solve this problem, the operational commander develops, first, a plan for getting the civilian agencies to collaborate. This "collaboration" plan is, of course, confidential within the military. It cannot be revealed to the parties (civilian agencies) that it is aimed at. In a properly developed and organized C2CC system, it would be maintained and updated in a militarily secret information system based on the use of CCA "option boards" (illustrated in the next section).

The objective aimed at by the collaboration plan is not to get civilians to sign up to a "compliance" plan (a plan for joint action against non-compliant parties) that is drawn up unilaterally by the military. It is to get their participation in a joint civil-military compliance planning process, by which the military and civilian agencies together draw up a plan to confront and collaborate with non-compliant parties. This is the only kind of joint plan that is effective, as civilian agencies will not willingly follow a plan drawn up by the military.

Once drawn up, the compliance plan is implemented through the separate activities of the military and civilian agencies involved. These parties also devolve their part of the plan to lower levels within their organizations. As implementation proceeds, the plan is continually revised and information updated through further meetings of the joint civil-military group. This is where a formal C2CC system would greatly increase effectiveness.

In this civil-military planning and implementation process, the military may or may not take the lead. The degree to which they or another agency leads will depend on the kind of compliance aimed at. Which agencies need to participate in the process also depends on the nature of the compliance mission. Where disarmament or physical security is the main aim, the military leads; indeed, in such cases participation may be limited to the military, with no need for any joint civil-military process. In other areas, other agencies take the lead. The participation and approval of the military commander generally remains essential, however, simply because he or she is the ultimate wielder of force. If it is not necessary, the need for a military force no longer exists.

Joint civil-military compliance planning does not have the same kind of secure confidentiality as internal military planning, since the information on which it is based is fully shared with external parties (civilian agencies). As far as possible, however, it is kept confidential within the civil-military planning group. In a properly developed and organized C2CC system, it too would be maintained and updated on a CCA-type information system provided by the military. But this system would be kept separate from militarily secret systems. Intelligence would be screened before being input into it.

In this way, optimal use is made of military information in contributing to the formation and implementation of a compliance plan. The flow of information is not, however, one-way from military to civilians. Civilian agencies cooperating with the military contribute much to the shared pool of information.

Note that while it may be convenient to use War-Fighting terminology in classifying P&SO parties as "friends" (civilian agencies), "foes" (non-compliant parties) and "neutrals" (parties with independent interests, e.g. neighboring countries), this can be misleading. Two things should be borne in mind.

- The CCA methods used to handle the interaction are the same, however the other parties are classified. It is always necessary to look at parties' differing positions, to bring them to adopt a single position, and to ensure that this single position is adhered to.

- The aim in every case is to obtain full, willing collaboration in a single outcome which, in general, is chosen by the parties together, not by a single party. The degree to which one party's initial objectives (in particular, the military's own initial objectives) prevail in the final agreed position will vary depending on the relative strength of:
    - the adequacy and credibility of that party's threats and promises;
    - the degree of its commitment to its own initial objectives.

Regarding the military's collaboration with civilian agencies, this means the military may have to or wish to let these civilian agencies largely determine the joint civil-military compliance plan.

Regarding interactions with non-compliant parties (e.g., the different political, religious and ethnic forces within Iraq), it means the same thing. The military and civilian agencies may wish to or have to allow them to determine much of their own future.

In each case, whether or not they determine the outcome, military commanders have an underlying responsibility for the process by which collaboration is achieved. Responsibility falls on them because, in a chaotic post-conflict environment, they command the use, misuse or disuse of dominant force.

How CCA tools can make C2CC more effective: the half day of training given to the CJTF commander and his staff

To prepare the CJTF commander and his key staff for the two-day workshop, they were given a half-day of training in the modeling techniques that the facilitator would use.

Description of CCA process

First, a six-phase framework for understanding the process of communication between parties with differing objectives was presented, as set out in Figure 1.
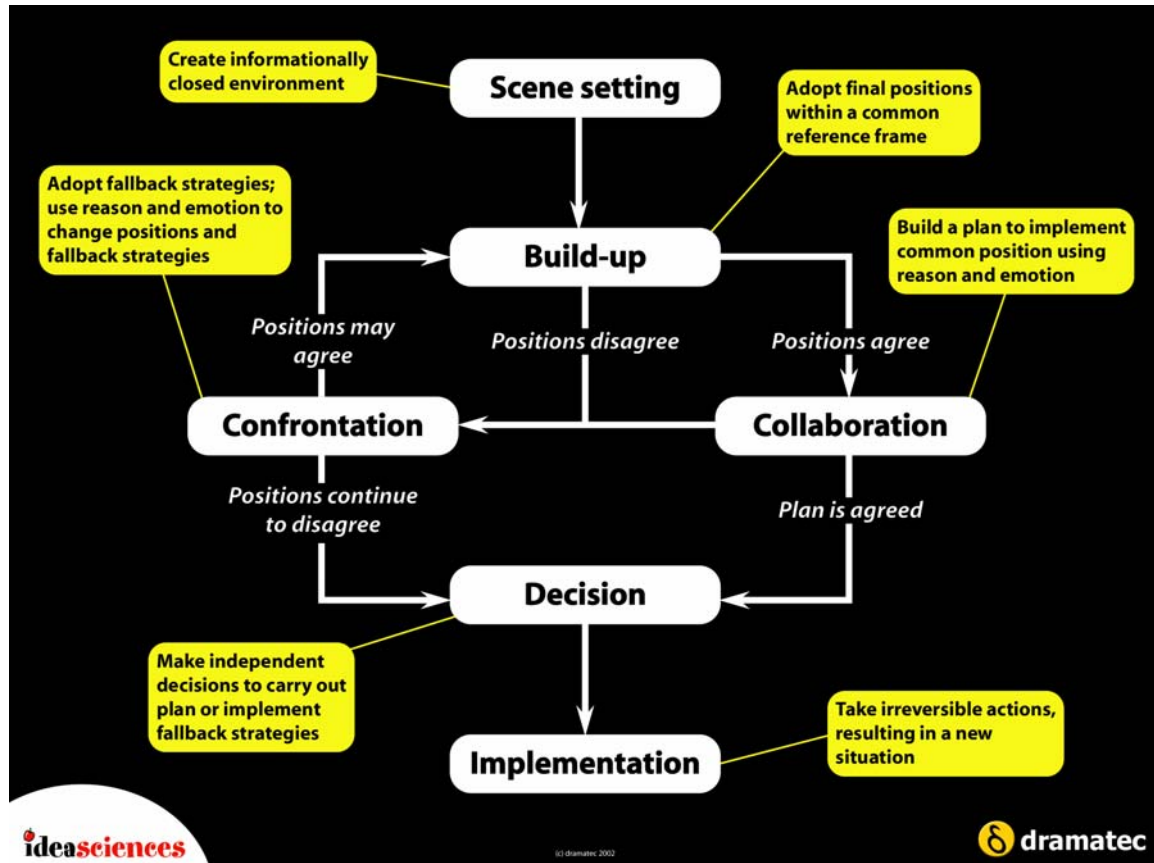

Figure 1: The six phases of an interactive episode

The phases in a typical interactive "episode" are as follows.

- o **Scene-setting** Something – such as their previous history, or a decision by higher levels of authority – will have brought the parties to the point where they have something to communicate about. This is "scene-setting". To allow communication, some kind of "informationally closed environment" must also have been created. This is necessary in order to stabilize parties' assumptions about each other and about their common knowledge. Without some such stable basis, no communication is possible. This Scene-setting phase will have given each party a set of possible beliefs about each party's options (what it can do) and about each party's preferences between sets of options (its preferences as to

what each of them should do.) The parties may not be sure what each of them can do and what each wants from each other, but they have some ideas about this. *Example*: the scene was set for present interactions in Iraq when coalition forces overthrew Saddam Hussein.

- o **Build-up.** The parties next go through a phase of finding out what demands each is going to make of each other and what each is prepared to offer in return. In doing so, they form final beliefs about each other. This is the "build-up". It ends with each party taking a "final position" – its proposed solution to the joint decision problem the parties are faced with. This position is by definition not secret. It is openly stated. However, it may or may not be sincere. Positions, being communicated, are taken within a "common reference frame" – a set of beliefs (and beliefs about beliefs, etc.) that the stated positions assume. Again, these assumptions may or may not be actually believed by each or any of the parties. However, they are explicitly assumed by the positions they are taking. *Example:* many Iraqis believe that the US intends a permanent occupation of Iraq. The US position does not assume this, but does assume that many Iraqis believe it. This is known to the Iraqis. The common reference frame encompasses this whole structure of beliefs and beliefs about beliefs. It is what each party knows about each other, and is known to know about each other, etc.

- o **Confrontation.** There are now two possibilities. Positions may agree or may disagree. If they agree, parties move on to the phase of collaboration. (Many authors, such as R. Fisher and W. Ury in *Getting to Yes,* Hutchinson, 1981, describe this by saying that parties have avoided the temptation to "bargain over positions".) If positions disagree, there is confrontation. Each party must now state, implicitly or explicitly, a "fallback strategy" – what it intends to do if an agreed position is not reached. By combining parties' fallback strategies we get a single outcome – the "fallback" or "threatened future". This is what threatens if parties cannot agree. There is now a climax at which parties use reason and emotion to try to change each others' positions and fallback strategies. If the result is a shift of positions, parties in effect go back to the Build-up phase to see whether positions now agree.

- o **Decision (conflictual).** If positions remain unchanged, parties must sooner or later decide whether to carry out the fallback strategies they are proclaiming. The result is either a conflict or, if they decide not to carry out their fallback strategies, a "flunked" conflict.

- o **Collaboration.** Returning to the Build-up, what happens if positions agree? We have a collaboration, where parties work together on a plan to reassure themselves and each other that they will in fact carry out the agreed position. They try to build safeguards into the plan. In the course of this collaboration, disagreements may appear. A party may resist having sanctions applied to should it defect from the agreed position, arousing the

suspicion that it intends to defect. In this way a collaboration may degenerate into a confrontation.

- o **Decision (collaborative).** If collaboration is successful, parties must sooner or later decide whether to carry out the actions they have agreed to in their common position. The result is either a resolution or, if some parties decide to defect, a false resolution.

- o **Implementation.** Whether the decision is for a conflict, a flunked conflict, a resolution or a false resolution, it is finally implemented when irreversible actions are taken. This creates a new situation. Often it is the Scene-setting phase of a new episode.

Within this process, CCA focuses on modeling the phases of confrontation and collaboration. These are the phases in which parties' beliefs and preferences are altered – i.e. this is where reason and emotion, used as weapons in an interaction, cause parties to redefine their views of the world and their objectives.

Analysis of a confrontation

To illustrate how a confrontation is modeled, Figure 2 was presented to the CJTF commander his staff. It shows the confrontation between Arabs and Israelis as it has been for some time.

	PI	P+A	f	I
PALESTINIANS				←
stop terrorism	•	?	•	?
recognize/accept Israel	•	?	•	?
ARAB STATES				←
fund terrorism	□	?	□	?
recognize/accept Israel	•	?	•	?
ISRAEL		→		
accept "viable" Palestinian state	•	?	•	•
raid/suppress Palestinians	□	•	□	•
accept minimal Palestinian state	•	•	•	□

Figure 2: Options Board showing the Arab-Israeli confrontation

The parties are listed at the left, with various yes/no policy options listed below each party's name. The column PI shows parties' present intentions in relation to these options. *A dot means that the corresponding option is not taken or intended. A rectangle means that it is.* Thus, column PI shows that the

Palestinians do not currently intend to stop terrorism or to recognize/accept Israel. The Arab states intend to continue funding terrorism and not to recognize/accept Israel. Israel does not intend to accept a "viable" Palestinian state (where "viable" means "capable of satisfying Palestinian demands for autonomy). Moreover, while Palestinian terrorism continues, Israel intends to continue raiding/suppressing Palestinian areas and does not intend to accept even a minimal Palestinian state.

The column P+A shows the joint position being taken by the Palestinians and the Arab states. Column I shows the Israeli position. *In these columns, question-marks indicate "doubts". The taking of an option, shown by a rectangle, has a question-mark when other parties doubt whether that option would be taken, even if it was agreed. The non-taking of an option, shown by the absence of a rectangle, has a question-mark when others suspect that the option would be taken, even if it were agreed that it should not be.*

Thus, the Palestinian/Arab position is that they will stop terrorism and recognize Israel if Israel stops raids and accepts a "viable" Palestinian state. Israel, however, does not believe them. It believes that, having got a Palestinian state, they would continue terrorism and its funding and refuse to recognize Israel. They, on the other hand, do not believe that Israel would actually accept a "viable" Palestinian state, even if it agreed to it. It would wriggle out of such a commitment.

The position offered by Israel is similar to the Palestinian, except that a minimal Palestinian state is offered instead of a "viable" one. But Israel doubts whether Palestinians and Arabs would implement this position, even if they agreed to it. Israel believes they would continue terrorism and its funding and refuse to recognize Israel.

Column f shows the fallback – the threatened future if agreement cannot be reached. It is the same as parties' present intentions, currently being carried out. Parties have no doubts about each other's intentions to continue implementing this future.

This model offers a clear, simple way of representing and holding information about a real-world confrontation. Information, including discussion of the meaning of each option and column as well as sources for the assumptions made, would be accessed by clicking on the board in Figure 2 as it would appear on a computer screen. Analysis of the model is completed by adding the arrows that appear in Figure 2.

An arrow shows a preference of the party in whose row the arrow appears; it shows that party's preference between the column the arrow appears in and column f – the fallback. Thus, Figure 2 says that the Palestinians and Arabs prefer the fallback (continued conflict) to the Israeli position. At the same time, the Israelis prefer the fallback to the Palestinian/Arab position. The reason for holding this preference, in each case, is partly the doubts shown by the question-marks. Each party doubts whether the positions offered to them would actually be carried out.

The analysis of the confrontation is brought out by the "Tug-of-War" diagram in Figure 3. This too was shown to the CJTF commander and his staff. Here, the positions of the two sides are shown by balloons enclosing brief descriptions. The fallback is shown by a rectangle. Parties' preferences between others' positions and the fallback are shown by horizontal arrows. Doubts (question-marks in the options board) are shown by vertical arrows with brief descriptions attached to them.
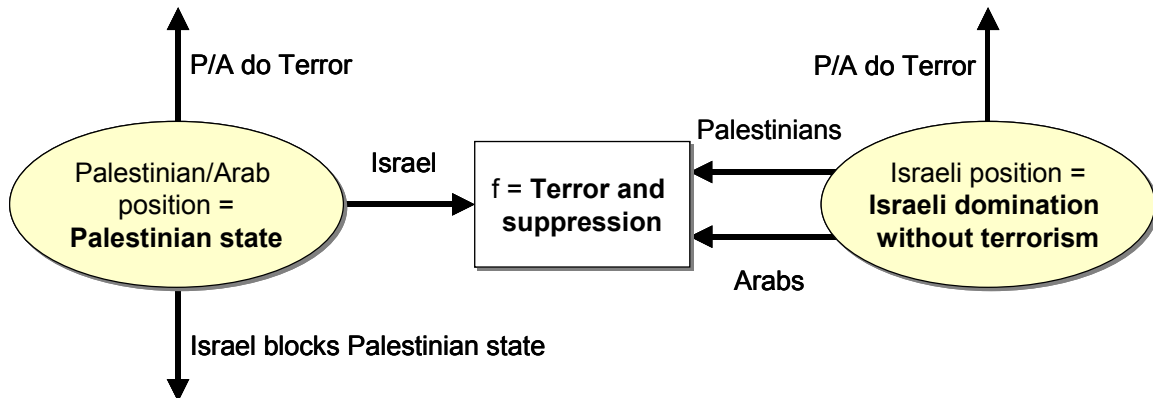

Figure 3: Tug-of-War diagram of Arab-Israeli confrontation

The analysis that flows from this follows the Tug-of-War metaphor. The party will win that makes all horizontal arrows point to its position and deletes all vertical arrows leading from its position. This is because horizontal arrows pointing to our position mean that others are under pressure to accept our position (since the fallback is worse for them) and we are under no pressure to accept theirs (since we prefer the fallback). Vertical arrows leading from our position show that it is untrustworthy. There is doubt that it would be implemented, even if it were accepted. Also, any vertical arrows leading from the fallback itself show that some parties' fallback strategies are not credible. There is doubt that they will carry out their threats.

From this, we can define confrontational Centers of Gravity (CoGs) for each party. Our CoG consists of the *reasons why* horizontal arrows should point to our position, why vertical arrows should not leave our position, and why no vertical arrows with our name on them should leave the fallback. By strengthening this CoG and weakening the CoGs of parties that oppose us, we can win a confrontation. Note that strengthening our CoG means advancing reasons and evidence to change our own and other parties' preferences.

So each party will try, using emotion and reason, to redirect its own and others' arrows as necessary to ensure victory, while resisting an opponent's attempt to redirect the arrows toward itself. This is how value systems, objectives and viewpoints are dynamically altered as parties interact with each other.

In Figure 3, for example, the arrow showing Israel's preference for Terror and Repression over Palestinian State means that Israel is under no pressure to accept the Palestinian/Arab position. Hence it represents an Israeli strength and a Palestinian/Arab weakness. The reasons why the arrow points in this direction

are therefore part of Israel's confrontational CoG. They might be stated as follows.

> *Israeli extremists, who are influential because of the system of proportional representation, absolutely prefer Terror and Repression because they regard Palestine as given to Israel by God. Other Israelis have the aim of driving Arabs out of Palestine and incorporating it into Israel for secular reasons. Others fear that making any concessions would make Israel seem weak, which they think might further encourage Arabs to seek its destruction. Most Israelis, however, would prefer Palestinian State to Terror and Repression if they believed it would mean what it promises – an end to terrorism and acceptance of Israel. However, since the breakdown of the Oslo process they do not believe this. Hence this Israeli strength depends crucially on the weaknesses (shown by "?"s) in the Palestinian/Arab position.*

These are static reasons for the Israeli preference. However, Israel's CoG is under constant attack from the Palestinian/Arab side, who try to weaken this part of the CoG by making terror worse for Israel (by sending more suicide bombers) while holding out the promise of peace and acceptance in return for a Palestinian state. Dynamic Israeli efforts to withstand these attacks and strengthen the CoG include the following.

> *Exaggerating Arab hatred of Israel and portraying it as constant and immovable; using past events to "prove" this view; fatalism; the concept that Israel will always face persecution and misrepresentation by others; the concept that Jewish history (of submitting to persecution in the past) requires them never to compromise or make any concessions; antagonism to any foreign intervention force (which might guarantee peace/acceptance, thereby strengthening the Palestinian/Arab End-state) on the grounds that such a force would be anti-Israeli, etc.*

These concepts and similar ones all serve the function of justifying a preference for Terror and Repression over Palestinian State – i.e. they strengthen Israel's CoG in this crucial area. A similar analysis could be made of static and dynamic Palestinian/Arab reasons for preferring Terror and Repression to Israel's position, thereby strengthening the Palestinian/Arab CoG against Israeli attacks.

Vertical arrows in the Tug-of-War, corresponding to question-marks in the Options Board, show weaknesses in parties' CoGs and strengths in the CoGs of opposing parties, since they give reasons for rejecting positions as unrealistic. For example, the arrow going up from Israel's position represents a weakness in Israel's CoG and a strength in the Palestinian/Arab CoG, as it shows that if Israel's position were accepted, Palestinians could not be trusted to carry it out – giving Palestinians/Arabs an argument against it. Reasons for the Palestinian preference for continuing terror would include determination to resist Israeli occupation, belief in Paradise for martyrs, etc. Dynamics would consist of

Palestinian/Arab attempts to enhance this rationale and Israeli attempts to eliminate it. In the latter category would be the Israeli policy of reprisals against terror combined with progressive relaxation once terror ceases. This is a policy of trying to make continuing terror non-preferred by the Palestinians.

Analysis of a collaboration

Figure 2 and Figure 3 illustrate the analysis of a confrontation. An interaction between parties that begins with a confrontation may, according to Figure 1, move into a collaborative phase as parties shift their positions.

Note that here the "tug-of-war" analogy breaks down to some extent. A tug-of-war is decisively won by one side. Decisive confrontational victories do occur, as when one side decisively wins the ongoing, dynamic fallback represented by a war, thereby forcing the other to prefer its position to continuation of the fallback.

Often, however, a common position is found when both sides shift positions to accommodate each other. This is a matter of each improving its offer to the other in order to increase the other's preference for its position compared to the fallback.

However arrived at, finding a common position is represented by a move to the collaboration phase of Figure 1. One problem then remains – the problem of trust. How to get rid of the vertical arrows leaving the common position, each of which represents a doubt that the position will be adhered to.

In contrast to the many negative emotions aroused by confrontation, the predominant emotion that needs to be aroused by collaboration is positive. If negative feelings start up, it is a sign that the collaboration is breaking down into renewed confrontation.

However, it is quite possible to have confrontation over details within an overall collaborative context. In this way parties can contain negative feelings inspired by detailed confrontations within an overall positive framework of collaboration. There is always the danger, however, that these confrontations may escalate to a higher level where they lead to an overall breakdown of collaboration.

Figure 4 and Figure 5 show how a collaboration is modeled and analyzed. The general procedure is to get rid of vertical arrows by assigning consequences (so-called "sanctions") to these arrows that are sufficient to make following the arrow unpreferred. The consequences in question may be automatic or may be agreed responses by the other side.

The analysis shows the difficulties that would attend a possible agreement under which the Palestinians and Arab states would give up terrorism and recognize Israel, which in return would progressively abandon many of its settlements in occupied territory while negotiating a Palestinian state.

Column a in Figure 4 represents this agreement. The question-marks show how each side would mistrust the other. Columns r(P+A) and r(I) show how, to allay this mistrust, credible sanctions against defection could, in theory, be agreed. r(P+A) shows a plausible Israel response to Palestinian/Arab defection. r(I)

shows a Palestinian/Arab response to Israeli defection. In each column, defecting parties are indicated by arrows against their names.

	PI	a	r(P+A)	r(I)
PALESTINIANS			→	
stop terrorism	•	[?]	•	•
recognize/accept Israel	•	[?]	•	•
ARAB STATES			→	
fund terrorism	☐	?	☐	☐
recognize/accept Israel	•	[?]	•	•
ISRAEL				→
negotiate Palestinian state	•	[?]	•	•
progressively abandon settlements	•	[?]	•	•
expand settlements	•	?	☐	☐
raid/suppress West Bank/Gaza	☐	•	☐	☐

Figure 4: Options Board showing a possible Arab-Israeli collaboration

The analysis is diagrammed in Figure 5. It shows how difficult it would be for the parties to agree the necessary sanctions. Israel would vehemently reject the idea that terrorism should be an agreed response to its defection from the negotiation process. It would argue that terrorism should never be employed as a sanction. But what other sanction can the Palestinians wield? Perhaps simple refusal to recognize Israel would suffice.
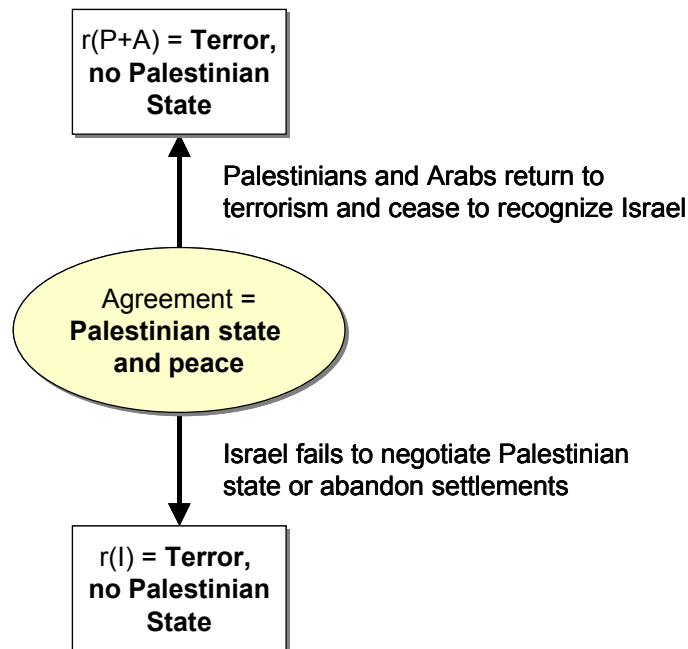
r(P+A) = **Terror, no Palestinian State**

Palestinians and Arabs return to terrorism and cease to recognize Israel

Agreement = **Palestinian state and peace**

Israel fails to negotiate Palestinian state or abandon settlements

r(I) = **Terror, no Palestinian State**

Figure 5: Tug-of-War diagram showing a possible Arab-Israeli collaboration

Against this, Israel would argue that Palestinians are likely to interpret legitimate confrontations over detail (such as the timing of withdrawal from settlements) as defections from the overall agreement. Hence it cannot admit the legitimacy of even the response "refusal to recognize Israel" as a sanction against a perceived defection on its part. It would see it as the first step on an escalatory path likely to lead to renewed terrorism, as in Figure 4 and Figure 5.

The Palestinians, on their part, would argue that if no sanctions against Israel are agreed, they cannot believe that Israel would stick to the agreement. They would be suspicious about the necessary haggling over details of withdrawal and the definition of a Palestinian state, regarding it as a deliberate campaign of obstruction amounting to defection from the overall agreement.

A suggested answer, not explored here, to this problem of trust between Arabs and Israelis is to dispatch an intervention force with US participation that would be trusted by both sides to police the agreement and impose appropriate, credible sanctions against defection.

General procedure for analyzing an interaction

Figure 6, presented to commander and his staff, sets out a general procedure for analyzing an episode of confrontation or collaboration between parties.
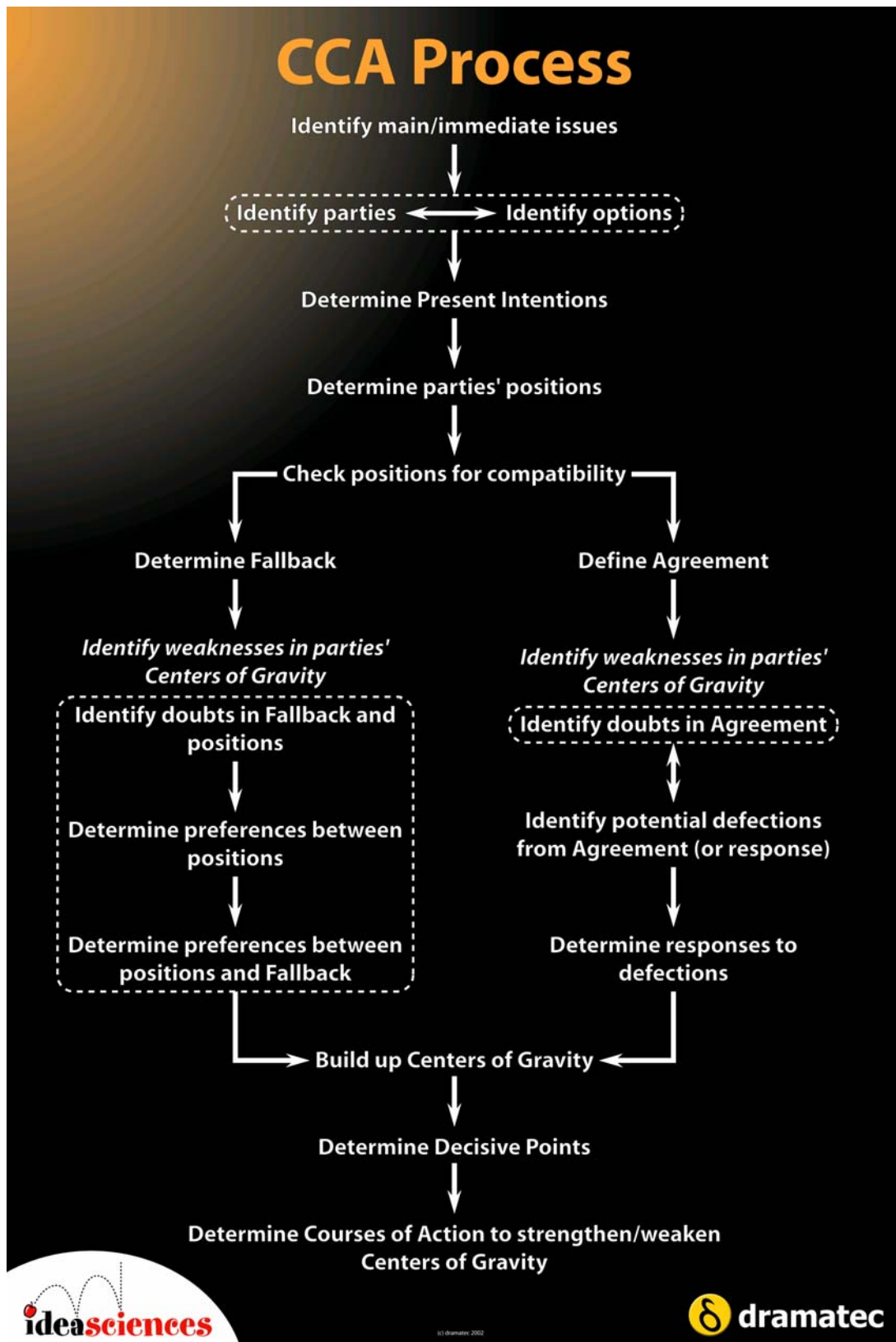
Figure 6: General procedure for CCA

The first step in this procedure is to identify the issues at stake in the interaction – i.e. the policies on which parties seek agreement and the "sticks" or "carrots" they are willing to use to get agreement. From this list of issues, the parties and their options are identified.

Note that a simple model is sought. A complex model speedily becomes unrealistic, since individuals representing parties in an interaction need to simplify the demands, threats and promises they present to each other in order to be sure they are understood. This does not preclude the use of complex models by staff officers. Staff need to take the simple model representing an agreement between principals and analyze its detailed implications in order to be able to devolve it to lower-level commanders.

It does mean that the model handed on to a line commander, as well as the model representing the higher-level interaction, needs to be simple – it is difficult to create agreements around hugely convoluted models. Any model representing an actual interaction must be relatively simple.

The next step in Figure 6 is to determine present intentions (column PI in Figure 2). This is simply a way of calibrating the model – i.e. of clarifying the actual meaning of each option. An exception to this is the task of planning for future confrontations and collaborations (e.g. pre-deployment planning). In this case, an assessment of "present intentions" is inappropriate, as planners are looking forward – at a future "world state".

The next step – that of determining parties' positions – will be straightforward in the case of an interaction currently taking place, as parties' positions are public; they are, by definition, what they say they are. If the analysis is in planning mode, looking forward to a future interaction, it will be a matter of choosing positions that parties seem likely to take or that it is worthwhile to analyze.

The next step depends on whether the positions identified are compatible. If they are, an analysis of collaboration follows on the lines of Figure 4 and Figure 5; if not, an analysis of confrontation follows on the lines of Figure 2 and Figure 3. In each case, a picture of each party's CoG is built up.

As stated earlier, the CoG consists of the arguments (reasons backed by evidence) and the emotions that support horizontal arrows going toward its position, reverse or weaken horizontal arrows going away from its position, eliminate vertical arrows leading from its position and selectively strengthen, add or eliminate other vertical arrows affecting its position.

Based on this analysis, a Sequence of Operations is constructed, going through Decisive Points to achieve our End-state. The End-state, in general, is willing compliance with our position (which may, however, have shifted in the course of interactions with other parties). A Decisive Point is reached when an arrow is successfully directed, reversed or eliminated, as required. A typical Sequence of Operations will consist of successfully bringing first one, then another non-compliant party into willing compliance.

The operations in this sequence may, at lower levels of command, be of various kinds, reinforcing each other. Physical operations such as deployments, reconstruction or destruction of assets, can be important. But they always contribute to an overall Information Operation – sending a message that attacks opposing CoGs and strengthens our own.

This relatively broad, and brief, introduction to C2CC concepts and tools provided the grounding for the commander and his staff to participate in the workshop – but could only, realistically, provide them with a superficial understanding. Time pressures dictated the training approach.

The AFNORTH trial of elements of a C2CC system

As said, the AFNORTH trial consisted of a two-day workshop, facilitated by an officer newly trained in CCA concepts and methods, in the course of which three models were built and analyzed. The procedure set out in Figure 6 was followed for each analysis. The models dealt with how the commander could formulate an overall intent consistent with the differing, inconsistent views of NATO nations and how he could work with the heads of civilian-agencies to bring about long-term compliant intentions on the part of governmental and military leaders.

The results of the trial are still being evaluated. Some preliminary remarks, based on the authors' observations and discussions with participants, are:

- o Military exercises are rarely organized to simulate the kind of national/political level ambiguities that regularly foul-up real life operations[3].

- o The analysis seemed to be effective in getting the commander and his staff to focus on important aspects of his mission that would not normally have been considered as part of Mission Analysis.

- o The discipline enforced by the C2CC elements (e.g. Options Boards) encouraged the command team to adopt new perspectives on the problems.

- o Lack of adequate training for the participants made the workshop less effective than it might have been.

- o The kind of analysis done in the workshop was relevant to many different parts of the Operational Planning Process, and might have been better used had it not been confined to a separate two-day workshop.

- o It is difficult to introduce new, fundamental concepts without auxiliary support (e.g. training, tools and doctrine). Such concepts must be introduced via successively refined Mission Capability Packages.

In summary, the authors feel that this trial demonstrated the potential for C2CC systems to be deployed in operational situations, but emphasized the importance of supporting new ideas with effective training, etc.

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[3] To aid in the assessment of C2CC, it was necessary to generate additional scenario material.

Future plans

Further testing, and future prototypical deployments, of CCA must focus on a more comprehensive view of C2CC – i.e. must represent a CCA *capability*. Effective CCA requires more than just theory and techniques. It requires trained personal, tools, doctrine, etc. Ultimately, it requires the development of a complete C2CC (socio-technical) system.

Developments are required to progress two (mutually supportive) threads:

CCA needs to be evaluated as a tool for developing and coordinating strategy throughout a military organization/operation (through C2CC). Doing so will require systems for managing Options Boards and Tug-of-War diagrams, and trained personnel to develop and analyze these models.

Senior military and government officials have suggested that there are immediate opportunities to deploy CCA in support of emerging engagements. Effective use of CCA in these engagements will require pre-positioning of capability which includes a number of trained military officers and basic facilitation tools/software.

Consequently, this proposal outlines a minimum set of developments that must be undertaken to meet these objectives. Three main areas of development are required:

1. **Training materials/courses**. This must include training for facilitators *and* participants – with differing requirements for each audience.

2. **Software development**. Software is required to support the development of Options Boards and Tug of War diagrams, and to assist in the analysis of these models.

3. **Support and reference materials**. CCA facilitators/analysts will need support as they conduct analyses "in the field". A range of reference materials (e.g. facilitation manual and on-line information center) will need to be provided to support trained personnel.

The authors intend to focus on the immediate development of these three areas. As development processes, opportunities are also been sought to engage C2CC in support of related developments – such as the Operational Net Assessment.

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